**Exhibit D – DSHS Enterprise Architecture Principles**

# DSHS Enterprise Architecture Program

## Enterprise Principles

Providing a framework for enterprise decision making to facilitate an integrated system of service delivery for the Washington State Department of Social and Health Services.

# Document Revision History

| Version Number | Date | Description |
|---|---|---|
| 0.1 | 07/23/2004 | Draft document for format approval |
| 0.2 | 09/19/2005 | Addition of Data is a Shared Asset Principal |
| 0.2.1 | 02/02/2006 | Removed reference to creating a business case document on page 5 |
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## Table of Contents

1. PURPOSE OF DOCUMENT:

The purpose of this document is to provide a single source for the overarching, data, business process, and technology principles approved by Agency management as part of the DSHS Enterprise Architecture Framework.

# I. 2. INTRODUCTION:

Principles are statements that guide decision making. Principles are meant to be enduring and seldom modified. Enterprise-level principles are a means of attaining consensus in the decision making process across a diverse and distributed organization. Principles are key components in a successful architecture governance strategy.

Currently, principles of the DSHS Enterprise Architecture Framework have been developed and approved in three categories: over-arching, data, and technology and are defined below within individual sections of this document. These categories reflect the current implementation state of enterprise architecture at DSHS as of the version of this document.

## A. 2.1 Components of a Principle

In addition to a definition statement each principle of the DSHS Enterprise Architecture framework will have, at a minimum, a rationale and a description of the implications of implementing the principle. In addition, each principle may have a definition section to clarify terminology used in defining the principle, an example of a situation where the principle would be employed, and a list of questions that can help determine if the decision being made complies with the intent of the principle.

## B. 2.2 Developing Enterprise Principles

Principles are developed through staff work supported by the Enterprise Architecture Program staff and approved by the Enterprise Architecture Core Team and the Enterprise Architecture Steering Committee (DSHS Cabinet). Details are documented in the "DSHS Enterprise Architecture Program Governance Strategy" document.

## C. 2.3 Qualities of a Principle

A good set of principles are grounded in the beliefs and values of the organization and are expressed in language that the business and all stakeholders understand and use. Principles should be few, oriented to the future, and approved and championed by senior management. They provide a basis for making decisions, developing policies, procedures and standards, and support data driven decision making. Good principles have the following characteristics:

- Understandable – The intention of the principle is clear and unambiguous and is quickly understood by the individuals throughout the agency.
- Succinct – The principle should be clearly defined and precise to support consistent decision making in complex and potentially controversial situations.
- Should express only one guideline thought – The principle should express a single thought, idea, or desired outcome to reduce confusion and complexity of adherence.
- Reduces controversy– Good principles should help resolve controversy. Weak principles define guidelines with which no one would ever have disagreement.
- Reflect lessons learned – Good principles sometimes are in areas where the organization has made serious or costly mistakes in the past.
- Consistent – Strict adherence to a principle may require a loose interpretation of another principle. A set of principles must be expressed in a way that allows for balanced interpretations. Principles should not be contradictory to the point where adherence to one would violate the spirit of another.

- Stable – Principles should be enduring though able to accommodate change.

## D. 2.4 APPLYING PRINCIPLES

Principles are put into place to establish a default behavior and generally have some method of not applying them if it does not make good sense. Language such as "should" and "if there is a clear business case" are typical manifestations of this idea.

When working with and applying principles there are often circumstances which necessitate application of precedence. A good example of when this may be encountered is when dealing with issues of accessibility or security.

# II. 3. OVER-ARCHING PRINCIPLES

Over-arching principles provide a basis for all levels of decision making throughout an enterprise. They apply to all columns of the DSHS Enterprise Architecture Framework.

## A. DSHS COMMONALITY PRINCIPLE

**Framework Level** – Over-arching

**Statement**

Should be common when there is a clear business case

**Rationale**

Decentralized culture, different funding sources require very clear business cases for commonality

**Implications**

- Will need a governance structure for common investments
- Common investments may need to be flexible

**Example Decision**

Pension planning data, business processes and systems should be common because of financial leverage and risk management

**Definition of Terms**

Business Case - A structured proposal for business improvement that functions as a decision tool for organizational decision-makers. A business case includes an analysis of business process performance and associated needs or problems, proposed alternative solutions, assumptions, constraints, and a risk-adjusted cost-benefit analysis.

**Applicability Test**
**Are you proposing common process, data, or technology? Yes No**
(If response is "No", do not continue with Use Table)

**Use Table – How to determine compliance with principle**

| **Compliance Question** | |
|---|---|
| Have you identified the decision makers/stakeholders? | **Yes No** |
| Have you created a business case for the commonality? | **Yes No** |
| Do you have a business case agreed to by the decision makers? | **Yes No** |
| | |

## B.

## C. DSHS Information System Boundary Principle

**Framework Level** – Over-arching

**Statement**

Should be designed around natural information system boundaries: loose coupling between, tight coupling within

**Rationale**

Balances between streamlined business processes and modular, plug and play approaches

**Implications**

- Will need a model defining natural information systems
- Will impact scope of systems

**Example Decision**

Case management is in a different information system than provider payment

**Definition of Terms**

Natural Information System – Logical classes of process that merges similar data.
Loose Coupling – See EAP Glossary of Terms
Tight Coupling – See EAP Glossary of Terms

**Applicability Test - Always Applicable**

**Use Table – How to determine compliance with principle**

| **Compliance Question** | |
|---|---|
| Have you identified what DSHS natural systems are in scope? | **Yes No** |
| If spanning more than one natural system, are you loosely coupled? | **Yes No** |
| | |
| | |

## D. DSHS External Partner Integration Principle

**Framework Level** – Over-arching

**Statement**

Should support linkages with external partners

**Rationale**

Increasing number and importance of external partners to the mission of DSHS

**Implications**

- Systems may need to use open standards
- Will increase security requirements
- May require redefined contractual and/or legal relationships
- Applies to current & external partners
- May require technical systems interface strategy or modeling
- Business processed must be designed with linkages in mind

**Example Decision**

Use open data standard instead of legacy developed standard

**Definition of Terms**

Open Data Standard - Standards for ensuring interoperability between different solutions that need to operate on the same data, adopted and documented by recognized standards setting organizations, publicly documented and freely available for adoption. Example: XML.
Linkages - Identifiable information to link records with different types of data from multiple sources.
External Partners – Authorized users/receivers of the data external to the creating organization and systems.

**Applicability Test**
**Do you have external partners now or expect to have in the future? Yes No**
(If response is "No", do not continue with Use Table)

**Use Table – How to determine compliance with principle**

| **Compliance Question** | |
|---|---|
| Have you identified the external partners? | **Yes No** |
| Have you supported linkages with these external partners? | **Yes No** |
| | |

## E. DSHS Business Ownership Principle

**Framework Level** – Over-arching

**Statement**

Should have an identified business owner at the lowest level possible

**Rationale**

Ensures that decisions can be made efficiently and that the right people are involved

**Implications**

Ownership needs to be determined for shared investments & for data, technology & processes (and possibly for organization as well).

**Example Decision**

Financial Services Program is owned by Economic Services even though multiple parts of DSHS work process & maintain cases.

**Definition of Terms**

Owner - The primary decision maker but has an obligation to consult stakeholders.

Governance - The act of affecting government and monitoring (through policy) the long-term strategy and direction of an organization. In general, governance comprises the traditions, institutions and processes that determine how power is exercised, how stakeholders are given a voice, and how decisions are made on issues of organization concern.

**Applicability Test - Always Applicable**

**Use Table – How to determine compliance with principle**

| **Compliance Question** | |
|---|---|
| Have you identified the business owners for process, data, and technology? | **Yes No** |
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## F. DSHS Accessibility Principle

**Framework Level** – Over-arching

**Statement**

Should be accessible to those with disabilities

**Rationale**

- Ensures equal access for clients, employees and other partners
- Ensures compliance to regulations

**Implications**

May increase scope and complexity of programs and projects

**Example Decision**

Not using color coding (a problem for color blind people)

**Definition of Terms**

Person with Disability – A person having a severe physical, cognitive or emotional disability or a history of having such disabilities or are perceived as having such disabilities.

**Applicability Test - Always Applicable**

**Use Table – How to determine compliance with principle**

| **Compliance Question** | |
|---|---|
| Have you provided a way for the disabled to access processes, data, and technology? | **Yes No** |
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# III.4. DATA PRINCIPLES

Data principles are a subset of the enterprise principles that provide guidance for decisions specific to data in terms of format, collection, storage, definition, usage, and security.

## A. DSHS MINIMIZE DATA REDUNDANCY PRINCIPLE

**Framework Level** – Data

**Statement**

Should not be redundant unless there is a clear business case

**Rationale**

Redundant data is very costly in terms of data management and integration.

**Implications**

- May need to reduce the number of data sources
- May need significantly improved data sharing and integration mechanisms
- Redundant data increases the likelihood that data will not be updated properly in all locations and so reduces data integrity.
- Although duplication of data is undesirable, controlled data redundancy is acceptable in some cases.

**Example Decision**

Access an existing employee database instead of creating an additional copy.

**Definition of Terms**

Data Redundancy - Storing the same data, like a customer's last name, multiple times.

**Applicability Test**
**Are you creating or copying a data store? Yes No**
(If response is "No", do not continue with Use Table)

**Use Table – How to determine compliance with principle**

| **Compliance Question** | |
|---|---|
| Have you identified the subject areas that are in scope? | **Yes No** |
| Are you creating a redundant copy of the data? | **Yes No** |
| Have you identified the decision makers for the business case? | **Yes No** |
| Have you gained approval of the decision makers? | **Yes No** |

## B. DSHS Analytical versus Transaction Processing Data Principle

**Framework Level** - Data

**Statement**

Should separate transaction data from analytical data

**Rationale**

Transaction and analytical data have very different requirements in terms of design and implementation. Separation helps reduce response time impacts to the transaction databases and provides a stable database for analytical and reporting functions.

**Implications**

Results in data redundancy
Reduces database access complexity and stabilizes volatility of the analytical data
Reduces response time impacts to transaction databases
Requires management of controlled data redundancy

**Example Decision**

Data research sections would run regular analyses of the provider and claim data against the production database involving huge amounts of detail claims and provider payment data. This would severely impact the nightly transaction data batch processing and sometimes run into the regular-hours online processing by case workers causing significant response time degradation. If an analysis job had to be rerun, special considerations had to be written in to the process to ensure that they were working with the same set of data and that new transactions were not included so that the numbers would balance between runs. By creating another database dedicated to analysis and reporting, the impacts were removed from the production database, improving service and availability of the system and the analysis became less complex since the database was no longer a continually moving target, was designed for more efficient reporting/analytical data access, and scheduled updates could be managed to ensure integrity between analysis and reporting efforts.

**Definition of Terms**
Transaction Data - Data created and stored as the result of an automated business transaction.
Analytical Data – Data that is optimized for reporting and analysis; sometimes summarized transaction and non-transaction data specifically structured for dynamic queries and analysis.
Separate – In the context of this principle, "separate" means the physical separation of the analytical data stores from the operational business transaction data stores.

**Applicability Test**
Are you using data for both transaction and analytical processing? **Yes No**
(If response is "No", do not continue with Use Table)

**Use Table – How to determine compliance with principle**

| **Compliance Question** | |
|---|---|
| Are you separating the transaction and analytical data? | **Yes No** |
| If "No", have you assessed the potential impacts to both processes and supporting database? | **Yes No** |
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## C. DATA IS A SHARED DSHS ASSET

**Framework Level** – Data

**Statement**

Should have access to data for purposes of treatment, payment or operations.

**Rationale**

The total value of information is not always realized where the data is kept in isolated systems or organizations. If data that is already collected by a DSHS program could be used by another program area for purposes of treatment, payment or operations, it should be shared. Accurate, timely data is critical to sound decision making.

**Implications**

- Data should be used from existing sources and not recaptured by new development.
- Data sharing is always subject to restrictions in law, regulations, and policy.

**Example Decisions**

- Can an inquiry to the new MMIS reveal that a DSHS client is being served by the Division of Alcohol and Substance Abuse (DASA)?
- If a representative of Adult and Disability Services Administration (ADSA) refers a client to DASA, can ADSA obtain information about the results?

**Applicability Test**

**Does some of the information your program seeks already exist somewhere in DSHS?** **Yes No**
(If response is "No", do not continue with Use Table)

**Use Table – How to determine compliance with principle**

| **Compliance Question** | |
|---|---|
| Would this access to data violate law, regulation or policy? | **Yes No** |
| Does your program intend to use the data for purposes of treatment, payment or operations? | **Yes No** |

# IV. 5. TECHNOLOGY PRINCIPLES

Technology principles are a subset of the enterprise principles that provide guidance specific to technology decisions across the enterprise. They are developed to reflect the level of consensus across the enterprise concerning the needs to integrate and standardize the technical environment in support of communication, information sharing, productivity and cost-effectiveness.

## A.

# V. 6. BUSINESS PROCESS PRINCIPLES

Business process principles are a subset of the enterprise principles that provide guidance for decisions concerning the establishment of natural business functional and process boundaries within the enterprise.

# VI. 7. PRINCIPLE COMPLIANCE CHECKLIST

In addition to being a repository for all approved principles for DSHS, this document is designed to be used as a principle compliance checklist and documentation tool for your project or planning effort. For an electronic copy and support on using this tool, please contact any of the EAP staff for assistance.

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